



SLOVENSKI STANDARD
oSIST prEN 676:2012

01-april-2012

Samodejni plinski ventilatorski gorilniki

Automatic forced draught burners for gaseous fuels

Automatische Brenner mit Gebläse für gasförmige Brennstoffe

Brûleurs à air soufflé pour combustibles gazeux

Ta slovenski standard je istoveten z: prEN 676 rev

ITEH STANDARD PREVIEW
(standards.iteh.ai)
<https://standards.iteh.ai/catalog/standards/sist/853a41f9-cf99-4198-b50e-a70799868eba/osist-pren-676-2012>

ICS:

27.060.20 Plinski gorilniki Gas fuel burners

oSIST prEN 676:2012 **en,fr,de**

iTeh STANDARD PREVIEW
(standards.iteh.ai)

[oSIST prEN 676:2012](https://standards.iteh.ai/catalog/standards/sist/853a41f9-cf99-4198-b50e-a70799868eba/osist-pren-676-2012)

<https://standards.iteh.ai/catalog/standards/sist/853a41f9-cf99-4198-b50e-a70799868eba/osist-pren-676-2012>

EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

DRAFT
prEN 676

March 2012

ICS 27.060.20

Will supersede EN 676:2003+A2:2008

English Version

Forced draught burners for gaseous fuels

Brûleurs à air soufflé pour combustibles gazeux

Gebläsebrenner für gasförmige Brennstoffe

This draft European Standard is submitted to CEN members for enquiry. It has been drawn up by the Technical Committee CEN/TC 131.

If this draft becomes a European Standard, CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

This draft European Standard was established by CEN in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.

Recipients of this draft are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

Warning : This document is not a European Standard. It is distributed for review and comments. It is subject to change without notice and shall not be referred to as a European Standard.



EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

Management Centre: Avenue Marnix 17, B-1000 Brussels

iTeh STANDARD PREVIEW
(standards.iteh.ai)

[oSIST prEN 676:2012](https://standards.iteh.ai/catalog/standards/sist/853a41f9-cf99-4198-b50e-a70799868eba/osist-pren-676-2012)

<https://standards.iteh.ai/catalog/standards/sist/853a41f9-cf99-4198-b50e-a70799868eba/osist-pren-676-2012>

Contents

Foreword	6
1 Scope	8
2 Normative references	8
3 Terms and definitions	11
3.1 General terms and definitions	11
3.2 Combustible gases	12
3.3 Test rig and combustion chamber	14
3.4 Composition of the gaseous combustion products	15
3.5 Burner operation	15
3.6 Gas line components	17
3.7 Adjusting, control and safety devices	17
3.8 Sequencing times	19
3.9 Combustion	20
3.10 Diagrams	20
4 Constructional and operational requirements – safety requirements and/or protective measures	21
4.1 Conversion to different gases	21
4.2 Construction	21
4.3 Equipment	23
4.4 Functional and operational requirements	33
4.5 Machine safety requirements and/or protective measures	45
5 Test methods	45
5.1 General	45
5.2 Functional tests	55
5.3 Operation	56
5.4 Tests to be carried out on the working and test diagrams	60
5.5 Combustion	63
5.6 Start-up	64
5.7 Obtaining the heat input	64
5.8 Electrical safety	65
5.9 Verification of safety and /or protective measures	66
6 Marking, labelling and packaging	66
6.1 General	66
6.2 Data plate	66
6.3 Other marking	67
6.4 Instructions for installation, adjustment, maintenance and operation	67
6.5 Packaging	69
6.6 Marking on the packaging	69
Annex A (normative) Determination of combustion characteristics — Carbon monoxide and nitrogen oxides and conversion factors	70
A.1 CO content, calculation from ml/m³ into mg/kWh	70
A.2 NO_x content, calculation from ml/m³ into mg/kWh	71
A.3 Correction for the influence of combustion air temperature and humidity on NO_x emissions	71
A.4 NO_x mean value for evaluating the NO_x classes	72
A.5 CO₂ content	72

prEN 676:2012 (E)

A.6	Other conversion factors for emissions, calculated from ml/m ³ into mg/m ³ at 3 % O ₂ reference flue gas conditions.....	72
Annex B	(informative) Examples of control box sequencing	74
Annex C	(informative) Test gases.....	75
C.1	General.....	75
C.2	Conditions for preparation of the test gases.....	75
C.3	Practical application of the test gases	76
Annex D	(informative) Gas connections conditions in common use in the various countries	79
Annex E	(informative) Tests	80
E.1	Supplementary testing	80
E.2	Drawing review	80
E.3	Individual test and inspection	80
E.4	Test report	81
Annex F	(informative) Use of alternative gas lines and test documentation	82
F.1	Use of alternative gas lines	82
F.2	Test documentation.....	82
Annex G	(informative) void.....	84
Annex H	(informative) Check of the air proving device	85
Annex I	(informative) Additional recommendations for specific applications	86
I.1	General.....	86
I.2	Pre-heating of the combustion air.....	86
I.3	Continuous working of the air ventilator	86
I.4	Variable excess of combustion air	86
I.5	Burner with start gas flame	86
I.6	Air filtering.....	87
Annex J	(normative) Machine related hazards – safety requirements and/or protective measures ¹⁾	88
J.1	General.....	88
J.2	List of significant hazards	88
J.3	Safety requirements and /or protective measures	88
J.4	Verification of machine safety requirements and/or protective measures	92
J.5	Information for use	92
Annex K	(normative) Additional requirements for burners with pressurised parts and burners firing pressurised bodies as defined in Pressure Equipment Directive (PED) 97/23/EC	94
K.1	General.....	94
K.2	Design	94
K.3	Pressurised parts	94
K.4	Electrical safety and gas line components	95
K.5	Gas pressure regulator	96
K.6	High gas pressure over load protection device	96
K.7	Automatic safety shut-off valve	96
K.8	Air proving device	96
K.9	Automatic burner control system	96
K.10	Means for draining and venting	96
K.11	General functions requirements	97
K.12	External safety limiter	98
K.13	Design according to Annex L in conjunction with EN 60204-1.....	98
K.14	Consideration: safety life cycle.....	99
K.15	Tests of pressurised parts.....	100
K.16	Other marking	101
K.17	Instructions for installation, adjustment, maintenance and operation.....	101
Annex L	(normative) Electrical requirements – modifications to EN 60204-1	103
L.1	Scope	103
L.2	Normative references	103

L.3	Definitions	103
L.3.1	Protective System	103
L.3.2	Safety device.....	104
L.3.3	Sensor.....	104
L.3.4	Protective equipment	104
L.3.5	Actuating element.....	104
L.3.6	Control system.....	104
L.4	General requirements	105
L.5	Incoming supply conductor terminations and devices for disconnecting and switching off.....	107
L.6	Protection against electric shock	107
L.6.1	General	107
L.6.2	Protection against direct contact.....	108
L.7	Protection of equipment	108
L.8	Equipotential bonding.....	108
L.9	Control circuits and control functions	108
Annex M (informative) Burner equipped to increase the efficiency		121
Annex N (informative) Electrical interfaces for burners.....		122
Annex O (informative) Environmental checklist EN 676		126
Annex P (informative) A–deviations		127
Annex ZA (informative) Clauses of this European Standard addressing essential requirements or other provisions of EU Directives.....		128
Annex ZB (informative) Relationship between this European Standard and the essential safety requirements of the Pressure Equipment (PED) Directive 97/23/EC.....		131
Annex ZC (informative) void		139
Annex ZD (informative) Relationship between this European Standard and the Essential Requirements of EU Directive 2006/42/EC Machinery Directive.....		140
Bibliography		141

ITC STANDARD PREVIEW
 (standards.iteh.ai)
 oSIST prEN 676:2012
<https://standards.iteh.ai/catalog/standards/cist/853a4180-6f00-4198-b50e-a70799868eba/osist-pren-676-2012>

prEN 676:2012 (E)**Foreword**

This document (prEN 676:2012) has been prepared by Technical Committee CEN/TC 131 "Gas burners using fans", the secretariat of which is held by DIN.

This document is currently submitted to the CEN Enquiry.

This document will supersede EN 676:2003+A2:2008.

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s).

For relationship with EU Directive(s), see informative Annex ZA, ZB and ZC, which is an integral part of this document.

- a) Based on ISO 22967 where different to EN 676 such as
 - i. Update of definitions
 - ii. Test rig < 2,4 MW and > 2,4 MW
 - iii. Electrical interfaces for burners
- b) Modification
 - i. Substitution of EN 50156-1 by EN 60204-1 to include international available requirements for the electrical safety of machines
 - ii. Annex J is adapted to the new ISO EN 12100 which is substituting EN 1050 which is currently referenced to in table J.1
 - iii. Normative formulation of Annex A 'Combustion characteristics'
- c) New functions / requirements
 - i. remote reset
 - ii. environmental aspects (environmental checklist)
 - iii. increase of burner efficiency
 - iv. Terminology for burner load control

This document includes a Bibliography.

Introduction

This European Standard is primarily intended for forced draught gas burners having a combustion air fan, operated with gaseous fuels, and intended to be marketed as a complete assembly.

EN 437 sets out a system of classification of appliances into categories defined according to the gases and pressures for which they are designed.

Such a system of classification, when applied to forced draught burners, can lead to difficulties in defining the precise category to which a particular burner should be allocated. For example many burners are designed to operate on a wide range of fuel gases with little or no modification other than adjustment of air supply.

The technical committee responsible for the standard decided that the following appliance categories for forced draught burners should apply:

- single categories: I_{2R} for natural gas and I_{3R} for liquefied petroleum gas;
- dual category: II_{2R/3R} for natural and liquefied petroleum gas.

All the burners of this standard marked with these categories are commissioned on site and the measured values are recorded in a commissioning report.

However it should be noted that the Gas Appliance Directive requires the specification of the type of gas and the supply pressure used as well as the burner category.

Forced draught gas burners according to this standard are often used in industrial applications. The safety principles are the same as for forced draught gas burners used for household/commercial applications. Industrial forced draught gas burners however should operate safely in their industrial environment and the risks involved can differ from those for household applications. These industrial forced draught gas burners can be characterized by the ability to withstand industrial environmental influences, like moisture, high temperature, electrical and magnetic phenomena, vibrations, etc.

Principal requirements for installation and construction of gas burners and industrial thermal processing are covered by EN 746-family.

Special requirements for forced draught burners for industrial premises will be given as a note with the addition "Industrial application".

Further information and application limitation for EN 676 forced draught burners which are used for industrial application are given in informative annex I.

This document is a type C standard as stated in EN ISO 12100.

The machinery concerned and the extent to which hazards, hazardous situations and hazardous events are covered are indicated in the scope of this document.

When provisions of this type C standard are different from those which are stated in type A or B standards, the provisions of this type C standard take precedence over the provisions of the other standard, for machines that have been designed and built according to the provisions of this type C standard.

prEN 676:2012 (E)**1 Scope**

This European Standard specifies the terminology, the general requirements for the construction and operation of forced draught gas burners and also the provision of control and safety devices, and the test procedure for these burners.

This standard is applicable to

- automatic gas burners with a combustion air fan (hereinafter called "burners") and gas line components, intended for use in appliances of different types, and that are operated with gaseous fuels;
- total pre-mixed burners and nozzle mixed burners.

The standard is applicable to

- single burners with a single combustion chamber;
- single-fuel and dual-fuel burners when operating only on gas;
- the gas function of dual-fuel burners designed to operate simultaneously on gaseous and liquid fuels, which, for the latter, the requirements of EN 264 also apply.

This European Standard deals with all significant machine hazards, hazardous situations and events relevant to burners, when they are used as intended and under conditions of misuse which are reasonably foreseeable by the manufacturer, see Annex J.

This European Standard specifies the requirements to be met by the manufacturer to ensure the safety during commissioning, start-up, operation, shut-down and maintenance.

This European Standard does not deal with hazards due to specific applications.

<https://standards.iteh.ai/catalog/standards/sist/853a4119-cf99-4198-b50e->

This European Standard is not applicable to forced draught gas burners which are manufactured before the date of its publication as EN.

This European Standard does not apply to burners specifically designed for use in industrial processes carried out on industrial premises.

This European Standard deals also with the additional requirements for the burners in the scope with pressurised parts and /or firing pressurised bodies, see Annex K.

This European Standard deals also with forced draught burners intended to be used with biogenous gaseous fuels, mixtures with line-conveyed gas and special gaseous fuels.

This European Standard deals also with burners equipped to increase the total appliance efficiency; see Annex M.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 88-1, *Pressure regulators and associated safety devices for gas appliances — Part 1: Pressure regulators for inlet pressures up to and including 500 mbar*

EN 88-2 *Pressure regulators and associated safety devices for gas appliances — Part 2: Pressure regulators for inlet pressures above 500 mbar up to and including 5 bar*

- EN 161, *Automatic shut-off valves for gas burners and gas appliances*
- EN 267, *Forced draught oil burners — Definitions, requirements, testing, marking*
- EN 294, *Safety of machinery — Safety distance to prevent danger zones from being reached by the upper limbs*
- EN 298, *Automatic gas burner control systems for gas burners and gas burning appliances with or without fans*
- EN 334, *Gas pressure regulators for inlet pressures up to 100 bar*
- EN 953, *Safety of machinery — Guards - General requirements for the design and construction of fixed and movable guards*
- EN 1088:2008, *Safety of machinery — Interlocking devices associated with guards — Principles for design and selection*
- EN 1092-1, *Flanges and their joints — Circular flanges for pipes, valves, fittings and accessories, PN designated — Part 1: Steel flanges*
- EN 1092-2, *Flanges and their joints — Circular flanges for pipes, valves, fittings and accessories, PN designated — Part 2: Cast iron flanges*
- EN 1092-3, *Flanges and their joints — Circular flanges for pipes, valves, fittings and accessories, PN designated — Part 3: Copper alloy flanges*
- EN 1643, *Valve proving systems for automatic shut-off valves for gas burners and gas appliances*
- EN 1854, *Pressure sensing devices for gas burners and gas burning appliances*
- EN 10204, *Metallic products — Types of inspection documents*
- EN 10208-1, *Steel pipes for pipelines for combustible fluids — Technical delivery conditions — Part 1: Pipes of requirement class A*
- EN 10208-2, *Steel pipes for pipelines for combustible fluids — Technical delivery conditions — Part 2: Pipes of requirement class B*
- EN 10216-1, *Seamless steel tubes for pressure purposes — Technical delivery conditions — Part 1: Non-alloy steel tubes with specified room temperature properties*
- EN 10217-1, *Welded steel tubes for pressure purposes — Technical delivery conditions — Part 1: Non-alloy steel tubes with specified room temperature properties*
- EN 12067-1, *Gas/air ratio controls for gas burners and gas burning appliances — Part 1: Pneumatic types*
- EN 12067-2, *Gas/air ratio controls for gas burners and gas burning appliances — Part 2: Electronic types*
- EN 15036-1:2006, *Heating boilers — Test regulations for airborne noise emissions from heat generators — Part 1: Airborne noise emissions from heat generators*
- EN 50156-1:2004, *Electrical equipment for furnaces and ancillary equipment — Part 1: Requirements for application design and installation*
- EN 60204-1: 2009 *Safety of machinery - Electrical equipment of machines - Part 1: General requirements (IEC 60204-1:2005, A1:2008, modified)*

prEN 676:2012 (E)

EN 60335-2-102:2007, *Household and similar electrical appliances — Safety — Part 2-102: Particular requirements for gas, oil and solid-fuel burning appliances having electrical connections (IEC 60335-2-102:2004, modified)*

EN 60529, *Degrees of protection provided by enclosures (IP code) (IEC 60529:1989)*

EN 60730-1, *Automatic electrical controls for household and similar use — Part 1: General requirements (IEC 60730-1:1999, modified + A1:2003, modified)*

EN 61310-1, *Safety of machinery — Indication, marking and actuating — Part 1: Requirements for visual, auditory and tactile signals (IEC 61310-1:1995 + Corrigendum 1995)*

EN 62061 *Safety of machinery - Functional safety of safety-related electrical, electronic and programmable electronic control systems (IEC 62061:2005)*

EN 10220, *Seamless and welded steel tubes — Dimensions and masses per unit length*

EN ISO 228-1, *Pipe threads where pressure-tight joints are not made on the threads — Part 1: Dimensions, tolerances and designation (ISO 228-1:2000)*

EN ISO 3166-1, *Codes for the representation of names of countries and their subdivisions — Part 1: Country codes (ISO 3166-1:2006)*

EN ISO 4871, *Acoustics — Declaration and verification of noise emission values of machinery and equipment (ISO 4871:1996)*

EN ISO 9606-2, *Qualification test of welders — Fusion welding — Part 2: Aluminium and aluminium alloys (ISO 9606-2:2004)*

EN ISO 9606-3, *Approval testing of welders — Fusion welding — Part 3: Copper and copper alloys (ISO 9606-3:1999)*

EN ISO 9606-4, *Approval testing of welders — Fusion welding — Part 4: Nickel and nickel alloys (ISO 9606-4:1999)*

EN ISO 9606-5, *Approval testing of welders — Fusion welding — Part 5: Titanium and titanium alloys, zirconium and zirconium alloys (ISO 9606-5:2000)*

EN ISO 12100:2010, *Safety of machinery - General principles for design – Risk assessment and risk reduction (ISO 12100:2010)*

EN ISO 13849-1, *Safety of machinery — Safety-related parts of control systems — Part 1: General principles for design (ISO 13849-1:2006)*

EN ISO 15609-1, *Specification and qualification of welding procedures for metallic materials — Welding procedure specification — Part 1: Arc welding (ISO 15609-1:2004)*

EN ISO 15609-2, *Specification and qualification of welding procedures for metallic materials — Welding procedure specification — Part 2: Gas welding (ISO 15609-2:2001)*

EN ISO 15609-3, *Specification and qualification of welding procedures for metallic materials — Welding procedure specification — Part 3: Electron beam welding (ISO 15609-3:2004)*

EN ISO 15609-4, *Specification and qualification of welding procedures for metallic materials — Welding procedure specification — Part 4: Laser beam welding (ISO 15609-4:2004)*

EN ISO 15609-5, *Specification and qualification of welding procedures for metallic materials — Welding procedure specification — Part 5: Resistance welding (ISO 15609-5:2004)*

iTeh STANDARD PREVIEW
(standards.iteh.ai)

<https://standards.iteh.ai/catalog/standards/sist/853a41f9-cf99-4198-b50e-a70799868eba/osist-pr-en-676-2012>

EN ISO 15612, *Specification and qualification of welding procedures for metallic materials — Qualification by adoption of a standard welding procedure (ISO 15612:2004)*

EN ISO 15614-7, *Specification and qualification of welding procedures for metallic materials — Welding procedure test — Part 7: Overlay welding (ISO 15614-7:2007)*

EN ISO 15614-11, *Specification and qualification of welding procedures for metallic materials — Welding procedure test — Part 11: Electron and laser beam welding (ISO 15614-11:2002)*

ISO 7-1, *Pipe threads where pressure-tight joints are made on the threads — Part 1: Dimensions, tolerances and designation*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN ISO 12100:2010 and the following apply.

3.1 General terms and definitions

3.1.1

forced draught burner

burner in which the total air for combustion is supplied by means of a fan

3.1.2

automatic forced draught burner

burner that is fitted with an automatic ignition, flame monitoring and burner control devices where the ignition, flame monitoring and the on/off switching of the burner occurs automatically

NOTE The heat input of the burner can be adjusted during operation either automatically or manually.

3.1.3

dual-fuel burner

burner in which both gaseous and liquid fuels can be burnt either simultaneously or in succession

3.1.4

total pre-mixed burner

burner in which part, or all, of the air for complete combustion of the gas is mixed with the gas upstream of the mixture outlet ports

3.1.5

nozzle mixed burner

burner in which part, or all, of the air required for combustion of the gas is mixed with the gas at, or downstream of, the air and gas ports

3.1.6

integrated ignition burner

burner with direct main ignition burner at reduced rate with by-pass start gas supply

3.1.7

start gas rate

gas rate ignited by the ignition device during the start-up of the burner

3.1.8

industrial application

forced draught burner utilization and operation in industrial environment

EXAMPLE industrial application in:

prEN 676:2012 (E)

- the extraction,
- growth,
- refining,
- processing,
- production,
- manufacture or
- preparation

of materials, plants, livestock, animal products, food or artefacts.

3.1.9**combustion chamber**

part of the appliance in which the combustion takes place

3.1.10**burner head**

device for mixing fuel and air comprising, for example, a stabilizing disc and nozzle, that keeps the flame in its safe position during operation of the burner

3.1.11**heat transfer medium**

gaseous or liquid substance for the transport of heat energy from the appliance.

3.1.12**appliance**

heat generator, into which the burner fires, which has a combustion chamber and heat exchanger to indirectly transmit the heat input from the burners combustion gases to the heat transfer medium

iTeh STANDARD PREVIEW

(standards.itteh.ai)

oSIST prEN 676:2012

<https://standards.itteh.ai/catalog/standards/sist/853a41f9-cf99-4198-b50e-3717b086e9e9/oSIST-prEN-676-2012>

3.2 Combustible gases**3.2.1****reference condition**

ambient condition of 15 °C and 0,101 325 MPa

3.2.2**calorific value**

quantity of heat produced by the combustion, at a constant pressure equal to 0,101 325 MPa, of unit volume or mass of gas, the constituents of the combustible mixture being taken at reference conditions and the products of combustion being brought back to the same conditions

NOTE A distinction is made between:

- the gross calorific value: in which the water produced by combustion is assumed to be condensed;

Symbol: H_S

and

- the net calorific value: in which the water produced by combustion is assumed to be in the vapour state.

Symbol: H_i

Units: either

- megajoules per cubic metre (MJ/m³) of dry gas at the reference conditions, or
- megajoules per kilogram (MJ/kg) of dry gas

3.2.3

relative density

d

ratio of the masses of equal volumes of dry gas and dry air at the same conditions of temperature and pressure

3.2.4

Wobbe index

ratio of the calorific value of a gas per unit volume and the square root of its relative density under the same reference conditions

NOTE 1 The Wobbe index is said to be superior (Ws) or inferior (Wi) depending on whether the calorific value used is superior or inferior.

NOTE 2 The units used for the Wobbe Index are either:

- a) megajoules per cubic metre (MJ/m³) of dry gas at the reference conditions; or
- b) megajoules per kilogram (MJ/kg) of dry gas.

NOTE 3 Adapted from ISO 14532:2005.

3.2.5

gas pressure

static pressure of the moving gas, relative to the atmospheric pressure, measured at right angles to the direction of flow of the gas

NOTE Gas pressure is expressed in Pascal (Pa, kPa, MPa).

3.2.6

line-conveyed gas

gaseous fuels available by line conveyed supply on site on which burners operate under nominal conditions when they are supplied at the corresponding normal pressure

3.2.7

reference gases

test gases on which burners operate under nominal conditions when they are supplied at the corresponding normal pressure

3.2.8

limit gases

test gases representative of the extreme variations in the characteristics of the gases for which burners have been designed

NOTE The characteristics of the reference and limit gases are given in Table C.1.

3.2.9

normal pressure

pressure under which the burners operate in nominal conditions when they are supplied with the corresponding reference gas

3.2.10

limit pressures

pressures representative of the extreme variations in the burner supply conditions

iTeh STANDARD PREVIEW
(standards.iteh.ai)

oSIST prEN 676:2012

<https://standards.iteh.ai/catalog/standards/sist/853a41f9-cf99-4198-b50e-a70799868eba/osist-pr-en-676-2012>